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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,278	04/01/2004	Ying Shen	650001-075	8363

58773 7590 10/17/2007

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EXAMINER	
YUN, EUGENE	

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
10/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/815,278	SHEN ET AL.	
	Examiner	Art Unit	
	Eugene Yun	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) *6 and 17-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-16 and 29-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 7-16 and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Moerder (US 6,256,483).

Referring to Claim 1, Moerder teaches a modular wide-range microwave communications unit comprising:

a precalibrated IF module having IF circuitry (see col. 6, lines 20-25) and an IF module memory operative for storing calibration values for the IF circuitry (see col. 12, lines 13-21);

at least one precalibrated RF module having RF circuitry (see col. 6, lines 26-33) and an RF module memory operative for storing RF calibration values for the RF circuitry (see col. 12, lines 13-21).

Referring to Claim 2, Moerder also teaches at least one precalibrated RF module including an RF transmit module with the RF circuitry therein including RF transmit circuitry (see col. 6, lines 26-33) and wherein the RF module memory includes an RF transmit module memory operative for storing calibration values for the RF transmit circuitry (see col. 12, lines 13-21).

Referring to Claim 3, Moerder also teaches at least one precalibrated RF module including an RF receive module with the RF circuitry therein including RF receive circuitry (see col. 6, lines 26-33 and line 35) and wherein the RF module memory includes an RF receive module memory operative for storing RF receive calibration values for the circuitry (see col. 12, lines 13-21).

Referring to Claim 4, Moerder also teaches IF transmit circuitry with a plurality of IF transmit attenuators, IF receive circuitry with a plurality of IF receive attenuators, and a processor adapted to control the IF transmit circuitry based on calibration values for sich circuitry stored in the IF module memory and to control the IF receive circuitry based on calibration values for such circuitry stored in the IF module memory (see col. 21, lines 13-21).

Referring to Claim 5, Moerder also teaches a radio processing unit which includes the precalibrated IF module, the at least one precalibrated RF module, and a signal processing unit with a modem, that is operatively coupled to the radio processing unit (see col. 6, lines 25-33).

Referring to Claim 7, Moerder teaches a modular wide-range microwave communications unit comprising a plurality of precalibrated modules at least one of which being a precalibrated RF module (see col. 21, lines 13-21), each of the plurality of precalibrated modules having a module memory operative for storing calibration values for configuration and operation of circuitry within such precalibrated module, wherein the module memory of the precalibrated RF module is operative for storing calibration values for RF circuitry within the precalibrated RF module (see col. 6, lines 20-33).

Referring to Claim 8, Moerder also teaches the precalibrated RF module including an RF transmit module in which the RF circuitry includes RF transmit circuitry and wherein the module memory in the precalibrated RF module includes an RF transmit module memory operative for storing calibration values for the RF transmit circuitry. (see col. 21, lines 13-21).

Referring to Claim 9, Moerder also teaches the RF transmit circuitry comprising an attenuator (see col. 15, lines 56-59), an IF detector and an RF detector 84 (fig. 5), and wherein the calibration values stored in the RF transmit module memory include calibration values for the attenuator and the IF and RF detectors (see col. 21, lines 13-21).

Referring to Claim 10, Moerder also teaches the precalibrated RF module including an RF receive module in which the RF circuitry includes RF receive circuitry and wherein the module memory in the precalibrated RF module includes an RF receive module memory operative for storing calibration values for the RF receive circuitry (see col. 21, lines 13-21).

Referring to Claim 11, Moerder also teaches the RF receive circuitry comprising an attenuator (see col. 15, lines 56-59) and wherein the calibration values stored in the RF receive module memory include calibration values for the attenuator (see col. 21, lines 13-21).

Referring to Claim 12, Moerder also teaches one of the plurality of precalibrated modules further including a precalibrated IF module comprising IF transmit circuitry, IF receive circuitry, and a processor, wherein the module memory in the precalibrated IF

module includes an IF module memory (see col. 6, lines 20-25), and wherein the processor is operably configured to control the IF transmit circuitry and receive instruction for controlling the IF receive circuitry based on IF transmit calibration values and IF receive calibration values stored in the IF module memory (see col. 21, lines 13-21).

Referring to Claim 13, Moerder also teaches an RF transmit module having an RF transmit circuitry portion of the RF circuitry and an RF receive module having an RF receive circuitry portion of the RF circuitry (see col. 6, lines 25-33), wherein the module memory in the precalibrated RF module includes an RF transmit module memory operable for storing calibration values for the RF transmit circuitry portion, and an RF receive module memory operable for storing calibration values for the RF receive circuitry portion (see col. 21, lines 13-21).

Referring to Claim 14, Moerder also teaches a precalibrated IF module that includes IF transmit circuitry with a first digital attenuator operatively coupled to a first analog attenuator, a first mixer operatively coupled to the first analog attenuator, a second analog attenuator coupled to the first mixer, a second digital attenuator coupled to the second analog attenuator, and a transmit IF AGC coupled between the first digital and first analog attenuators (see col. 15, lines 49-59), and wherein the module memory in the precalibrated IF module is operable to store calibration values for the attenuators of the IF transmit circuitry (see col. 21, lines 13-21).

Referring to Claim 15, Moerder also teaches a precalibrated IF module that includes IF receive circuitry with a receive RSSI detector, a plurality of receive

attenuators, a mixer, a further attenuator, and a receive AGC detector operably coupled in a manner where the receive RSSI detector is operable coupled to the plurality of receive attenuators, the plurality of receive attenuators are operably coupled to the mixer, the mixer is operably coupled to the further attenuator (see col. 15, lines 49-59), and the further attenuator is operably coupled to a receive AGC detector, and wherein the module memory in the precalibrated IF module is operable to store calibration values for the plurality of receive attenuators and further attenuator of the IF receive circuitry (see col. 21, lines 31-21).

Referring to Claim 16, Moerder also teaches a radio processing unit which includes the plurality of precalibrated modules one of which being a precalibrated IF module and another being the precalibrated RF module, and a signal processing unit having a modem, and operably coupled to the radio processing unit (see col. 6, lines 25-33).

Referring to Claim 29, Moerder also teaches a precalibrated IF module having:

transmit IF circuitry, receive IF circuitry, and an IF module memory for storing IF calibration values for the transmit and receive IF circuitry (see col. 21, lines 13-21); and

a processor operably configured to execute instructions including transmit instructions for controlling the transmit IF circuitry and circuitry of the RF transmit circuitry portion based on the IF calibration values and calibration values for the RF transmit circuitry portion, and receive instructions for controlling the receive IF circuitry and circuitry of the RF receive circuitry portion based on the IF calibration values and RF receive calibration values (see col. 4, lines 48-58).

Referring to Claim 30, Moerder teaches a precalibrated RF module operable in a modular wide-range microwave transceiver, the precalibrated RF module comprising one or both of:

A precalibrated RF transmit module having an RF transmit module memory for storing RF transmit calibration values for circuitry of the precalibrated RF transmit module (see col. 6, lines 26-33), wherein the precalibrated RF transmit module is configured to operatively interact with a precalibrated transmit IF module having transmit IF circuitry, a transmit IF module memory for storing transmit IF calibration values (see col. 6, lines 20-25) and a transmit processor operably configured to control the transmit IF circuitry and circuitry of the precalibrated RF transmit module based on transmit IF calibration values and on RF transmit calibration values (see col. 21, lines 13-21); and

A precalibrated RF receive module having an RF receive module memory for storing RF receive calibration values for circuitry of the RF receive module (see col. 6, lines 26-33), wherein the RF receive module is operable together with a precalibrated receive IF module having receive IF circuitry, an receive IF module memory for storing receive IF calibration values for the receive IF circuitry, and a receive processor and instructions (see col. 6, lines 20-25), the processor being operably configured to execute the instructions when coupled to the receive IF module memory and RF receive module memory, the instructions comprising receive instructions for controlling the receive IF circuitry and circuitry of the RF receive module based on the receive IF calibration values and RF receive calibration values (see col. 21, lines 13-21).

Referring to Claim 31, Moerder also teaches a precalibrated IF module comprising memory for holding IF transmit calibration values, the precalibrated transmit IF module and the precalibrated receive IF module, wherein an IF module memory forms both the transmit IF module memory and the receive IF module memories (see col. 6, lines 20-25), and an IF module processor forms both the transmit and receive processors (see col. 21, lines 13-21).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 32-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al. (US 6,882,311) in view of Moerder.

Referring to Claim 32, Walker teaches a module wide-range wireless communications unit, comprising:

An IF/radio processing card (F/RPC) module including precalibrated IF transmit circuity, precalibrated IF receive circuitry, a telemetry circuit, a memory for holding calibration values associated with the IF transmit and receive circuitries, a processor adapted to control respective configuration and operations of the IF receive and transmit circuitries based on their associated calibration values and based on control signaling received via the telemetry circuit (see col. 7, lines 11-21);

A transmitter module operatively coupled to the IF/RPC module (see col. 6, lines 53-56);

A receiver module operatively coupled to the IF/RPC module (see col. 7, lines 3-5); and

An antenna coupling module operatively interfaced with the transmitter and receive modules (see col. 7, lines 3-10).

Walker does not teach the transmitter module receiving IF transmit signals, the transmit module including precalibrated RF transmit circuitry for converting IF to RF transmit signals;

A transmit memory for holding calibration values associated with the transmitter module;

The receiver module sending IF receive signals, the receiver module including precalibrated RF receive circuitry for converting RF to IF receive signals; and

A receive memory for holding calibration values associated with the receiver module.

Moerder teaches the transmitter module receiving IF transmit signals, the transmit module including precalibrated RF transmit circuitry for converting IF to RF transmit signals (see col. 6, lines 26-33);

A transmit memory for holding calibration values associated with the transmitter module (see col. 12, lines 13-21);

The receiver module sending IF receive signals, the receiver module including precalibrated RF receive circuitry for converting RF to IF receive signals (see col. 6, lines 26-33 and line 35); and

A receive memory for holding calibration values associated with the receiver module (see col. 12, lines 13-21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Moerder to said device of Walker in order to more efficiently control power in a wide-range communications unit.

Referring to Claim 33, Walker also teaches a power amplifier module interposed between the antenna coupling module and the transmitter module (see col. 7, lines 17-21).

Referring to Claim 34, Walker also teaches a synthesizer module operatively coupled to the IF/RPC module (see col. 6, lines 53-56).

Referring to Claim 35, Walker also teaches the transmitter module including a monolithic microwave transmitter IC (see col. 7, lines 11-16).

Referring to Claim 36, Walker also teaches the receiver module including a monolithic microwave receiver IC (see col. 7, lines 11-16).

Referring to Claim 37, Walker also teaches the IF/RPC and transmitter module forming a transmit path and, together, the receiver module and IF/RPC form a receive path, and wherein the control signaling received via the telemetry circuit includes commands from a remote signal processor unit to adjust frequency and modulation settings within transmit and receive paths, respectively (see col. 7, lines 3-10).

Referring to Claim 38, Walker also teaches the memory of the IF/RPC module and the transmit memory including calibration tables for the calibration values including transmit power attenuation values (see col. 8, lines 1-9).

Referring to Claim 39, Moerder also teaches the transmit power attenuation values correlating to modulation settings and temperature values (see col. 3, lines 45-51).

Referring to Claim 40, Moerder also teaches each of the IF and RF transmit circuitries including one or more attenuators controllable by the transmit power attenuation values (see col. 15, lines 49-59).

Referring to Claim 41, Walker also teaches each of the circuitries including one or more attenuators activation is controllable by the calibration values contained in the memory of the IF/RPC and receive memory (see col. 7, lines 3-10).

Response to Arguments

5. Applicant's arguments with respect to claims 1-5, 7-16 and 29-41 have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's arguments filed 4/13/2007 have been fully considered but they are not persuasive.

The applicant states that the Moerder teaches away from the claimed invention because the Moerder reference teaches a fixed gain. Whether or not that may be true, there is nothing in the independent claims, especially claims 1 and 7, which state anything about varying output gains. The independent claims also do not state anything

about an outdoor unit. The examiner believes that the Moerder teaches all of the limitations of the independent claims as **currently written.** For example, claim 1 can be read on to simply teach a memory which stores calibration values of RF and IF circuitry, which is not only taught by the Moerder reference, but also well known in the art.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Yun whose telephone number is (571) 272-7860. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571)272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eugene Yun
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EY

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